



INVENTION DISCLOSURE

PDNO

10003994

DATE RCVD

PAGE ONE OF
ATTORNEY

Instructions: The information contained in this document is **COMPANY CONFIDENTIAL** and may not be disclosed to others without prior authorization. Submit this disclosure to the HP Legal Department as soon as possible. No patent protection is possible until a patent application is authorized, prepared, and submitted to the Government.

Descriptive Title of Invention:

Memory Card Access Indicator System

Name of Project: MSB (Mobile Storage Business) All Memory Card Projects**Product Name or Number:** - NA -

Was a description of the invention published, or are you planning to publish? If so, the date(s) and publication(s):
Not to my knowledge

Was a product including the invention announced, offered for sale, sold, or is such activity proposed? If so, the date(s) and location(s):
No

Was the invention disclosed to anyone outside of HP, or will such disclosure occur? If so, the date(s) and name(s):
No

If any of the above situations will occur within 3 months, call your IP attorney or the Legal Department now at 1-898-4919 or 970-898-4919.

Was the invention described in a lab book or other record? If so, please identify (lab book #, etc.)

No

Was the invention built or tested? If so, the date:

No

Was this invention made under a government contract? If so, the agency and contract number:

No

Description of Invention: Please preserve all records of the invention and attach additional pages for the following. Each additional page should be signed and dated by the inventor(s) and witness(es).

- A. Description of the construction and operation of the invention (include appropriate schematic, block, & timing diagrams; drawings; samples; graphs; flowcharts; computer listings; test results; etc.)
- B. Advantages of the invention over what has been done before.
- C. Problems solved by the invention.
- D. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: []

00048077 Mark Minne

Employee No. Name

Signature

396-4059

Telnet

MS 400

Mailstop

MSB (Mobile Storage Bus.)

Entity & Lab Name

Employee No. Name

Signature

Telnet

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Entity & Lab Name

Employee No. Name

Signature

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Entity & Lab Name

Employee No. Name

Signature

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Mailstop

Entity & Lab Name

(If more than four inventors, include additional information on another copy of this form and attach to this document)

INVENTION DISCLOSURE

COMPANY CONFIDENTIAL

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Signature of Witness(es): (Please try to obtain the signature of the person(s) to whom invention was first disclosed.)

The invention was first explained to, and understood by, me (us) on this date: []

Full Name

Signature

Date of Signature

Lindeen N. Neufeld Lindeen N. Neufeld

Full Name

Signature

Date of Signature

James V. Browning James V. Browning

Inventor & Home Address Information. (If more than four inventors, include addl. information on a copy of this form & attach to this document)

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Do you have a Residential P.O. Address? P.O. BOX

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Citizenship

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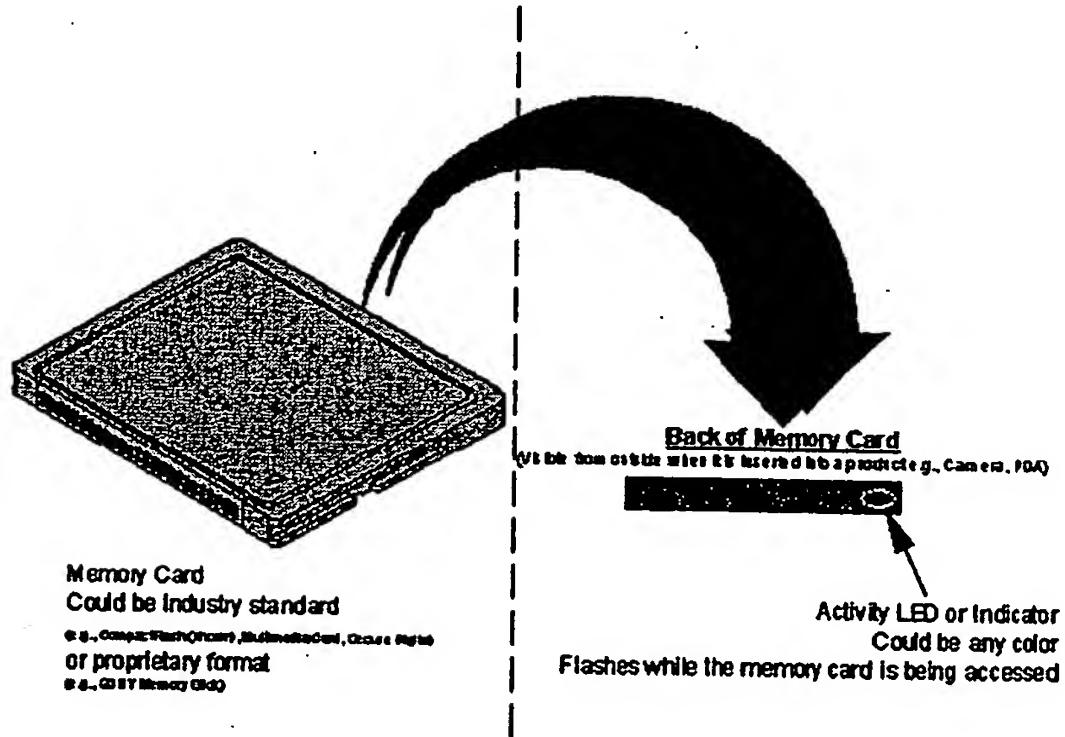
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Greeted as (nickname, middle name, etc.)

Citizenship

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B. Advantages of the invention over what has been done before. The indicator will let the end-user know when the device that has the memory card installed is accessing the memory card. This device could be a Digital Camera, a PDA (Personal Digital Assistant), notebook computer or any product that supports a memory card. Today, there is NOT an activity indicator on the memory card. With the availability of low power reliable indicators like LED (light emitting diodes), there is no reason why an activity indicator done with a single flashing activity indicator or multiple indicators cannot be incorporated in the memory card to show the end user what is being done with their memory card. For example: Whenever the memory card is reading or writing a file I envision that the indicator would flash to show the user that the device is communicating with the memory card. This indicator is independent of memory card format or technology. It could be a SONY Memory Stick, CompactFlash form factor card (pictured in "A"), a multimedia card, secure digital card or one of the other form factor memory cards available in the market today. A second indicator light could be added to show that the card is on and available for access by the device or in combination to show functions or failure modes.

*Indicator could also show when the
Memory card is getting full (e.g. yellow/caution light).*

C. Problems solved by the invention. Because of the relative slow speed of memory cards, a user is never absolutely sure that the device (e.g., a digital camera) is finished writing data or reading data from the memory card. If the memory card is removed prematurely it can corrupt the file being written or may cause the application to "hang" when reading a file. The activity light would let the end-user know when it is safe to remove the memory card or provide other indication of function or failure. Also, as other devices are built into these small memory card form factors (e.g., wireless modems) it will be important for the user to see the activity or failure mode of these devices through indicator lights located in the end of the card.

- D. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.). There are no other solutions available except as software/firmware of the device that the memory card or other product in memory card formats device (e.g., wireless modem) is installed in. To my knowledge there is no direct activity indication available today, that only a low power indicator built directly into the card can provide.